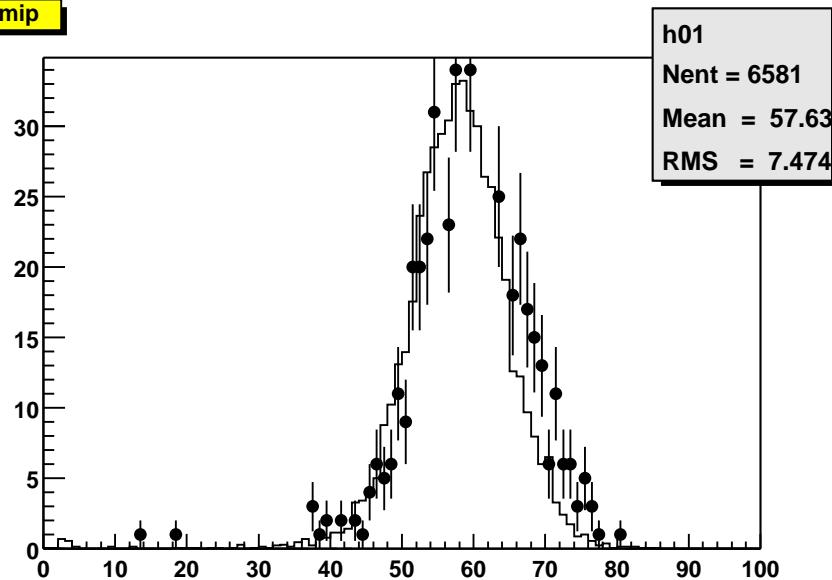


Hadron plug calorimeter tuning

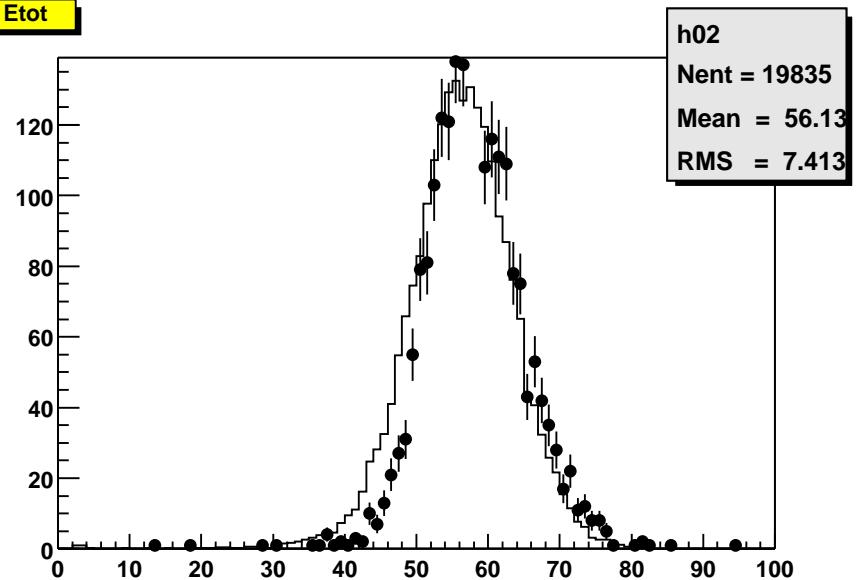
- Comparison TB'96–97 data vs Gflash:
 - ☞ mimic CEM+CHA approach: start with 57 GeV π
- First look ... shape of distributions

Initial comparison (9/28/01)

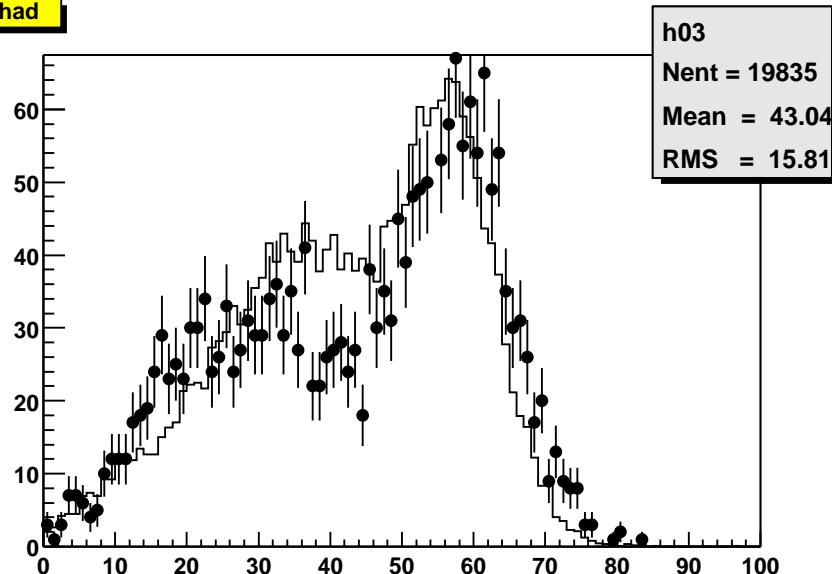
Emip



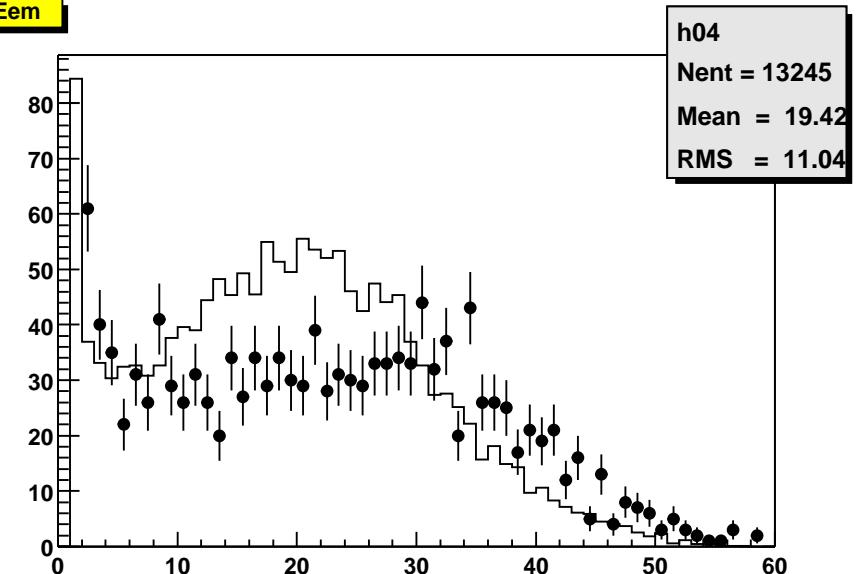
Etot



Ehad



Eem

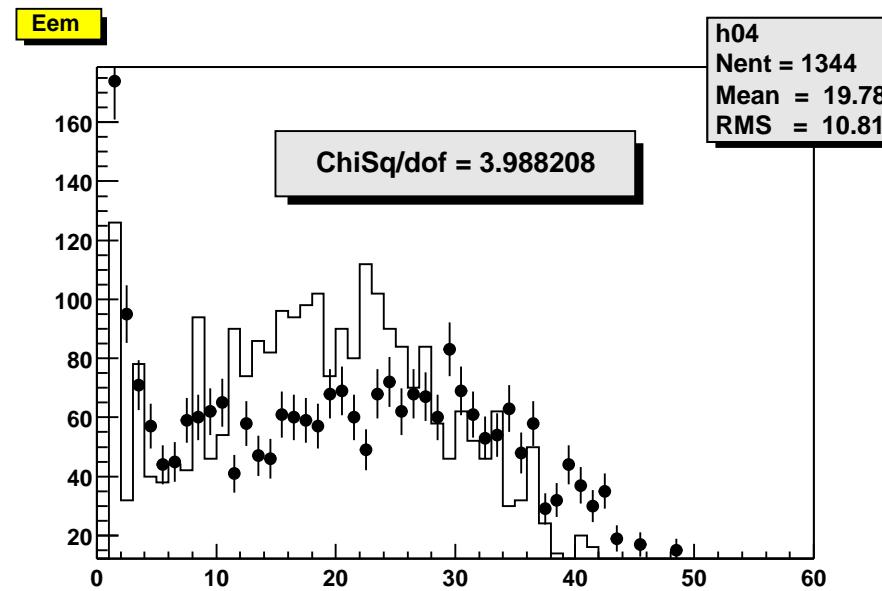
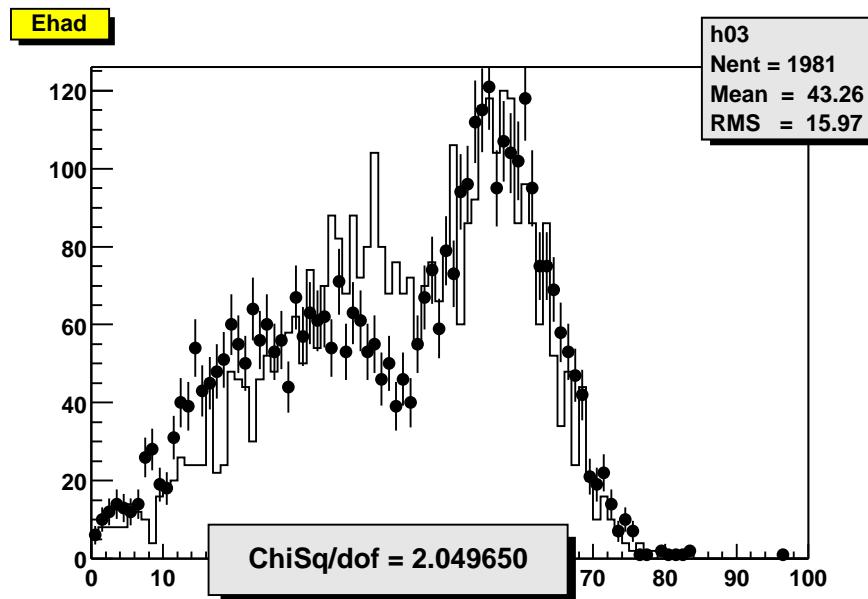
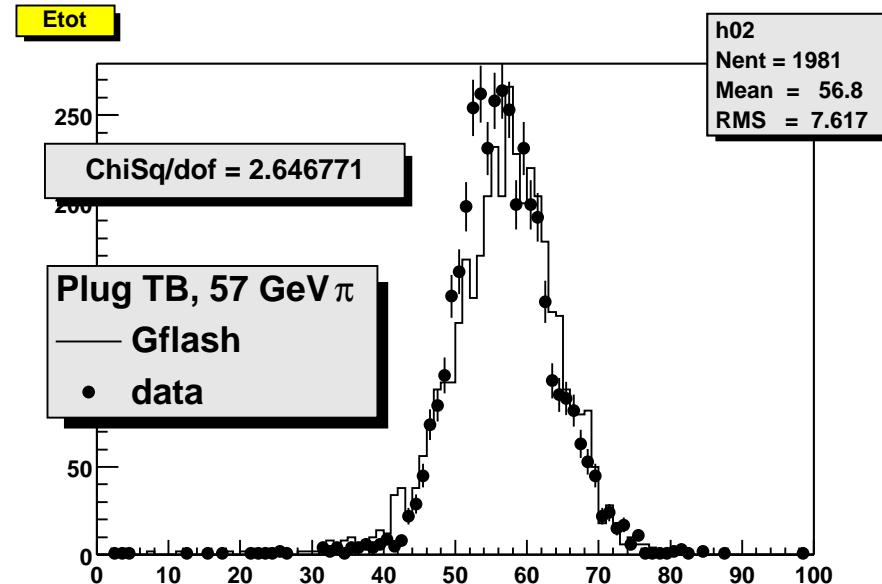
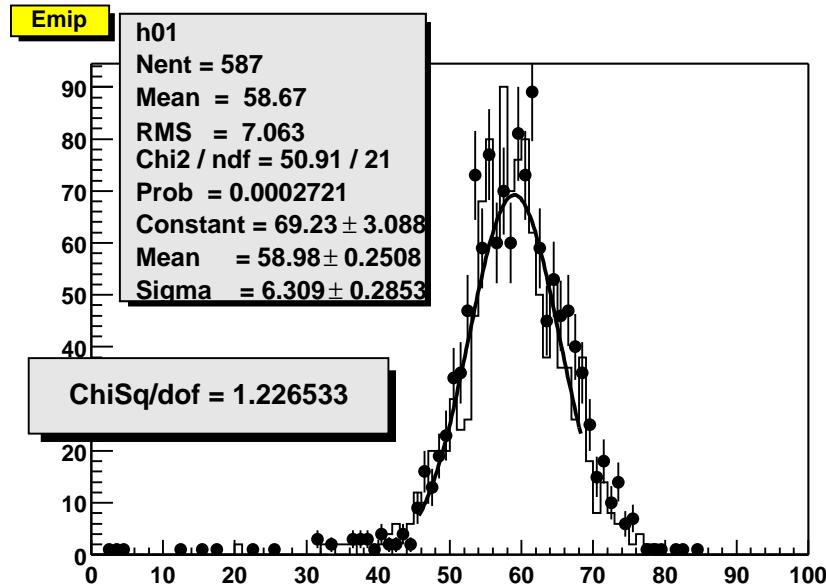


Since last week ...

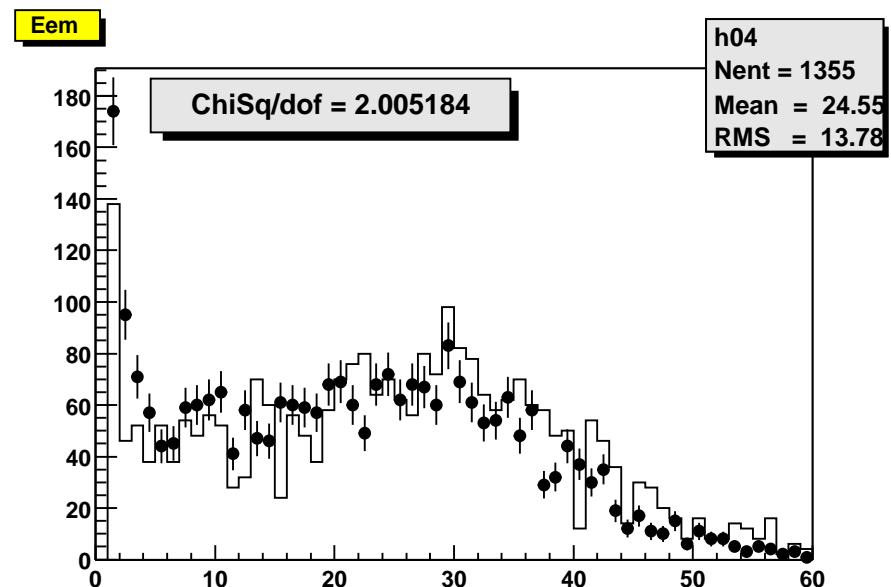
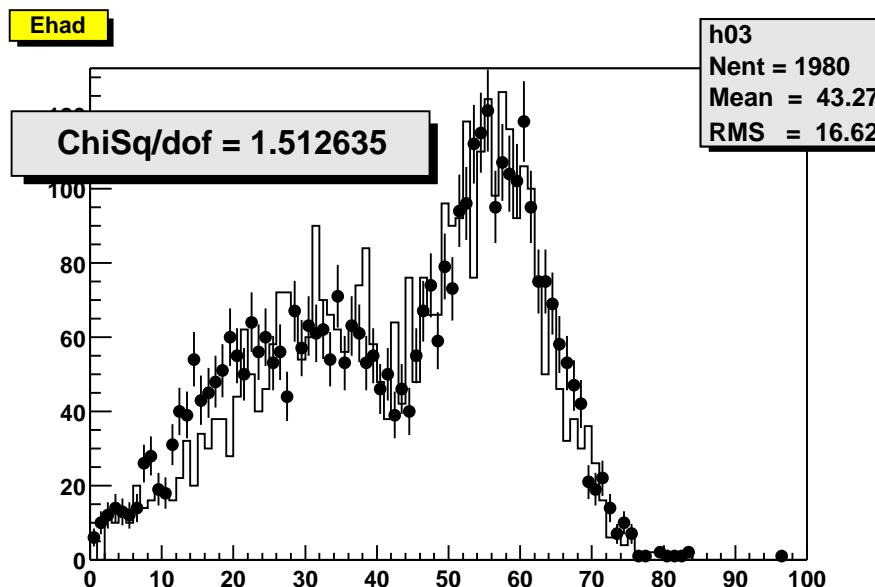
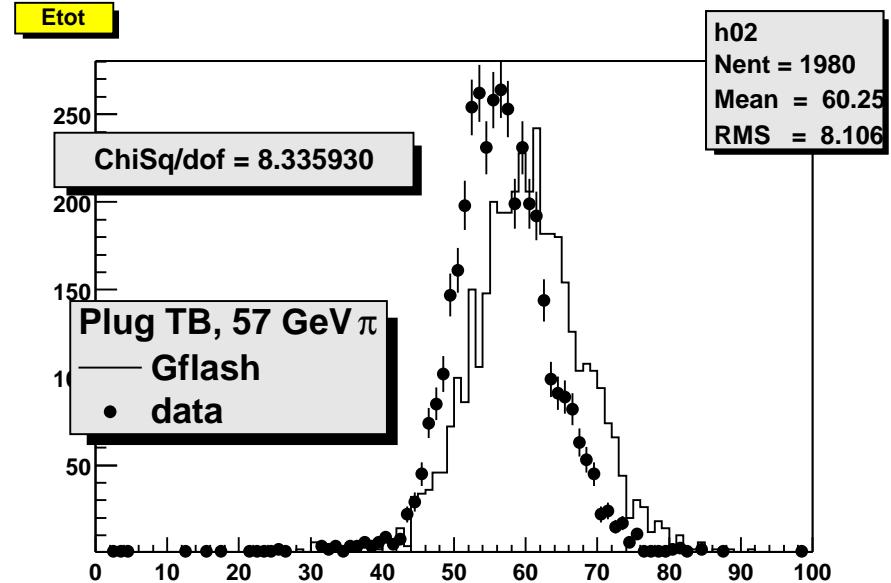
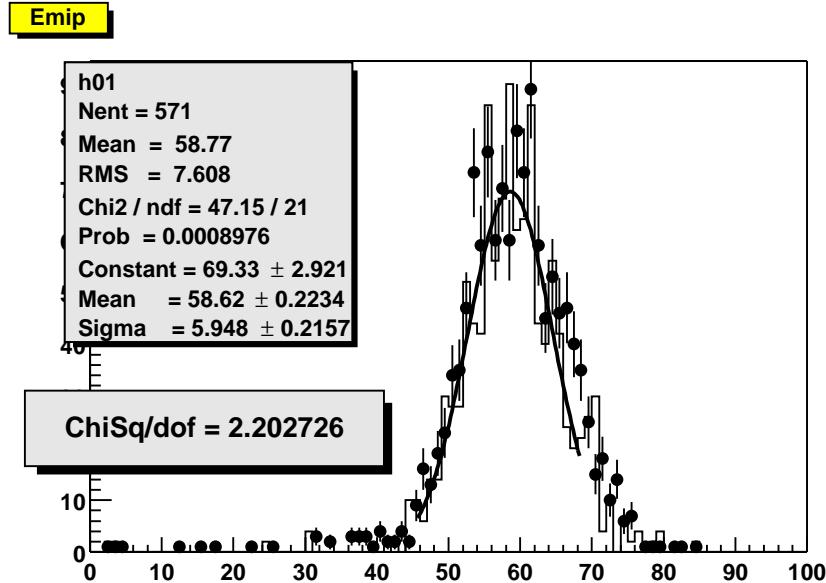
(cf plots prev. slide & Marjorie's talk 10/3/01)

- Magnetic field turned *off* ...
- TB setup:
 - 3 wedges (0,1,2)
 - hadron calibration based on 5x5 grid sum
- ☞ distributions based on 5x5 clusters (instead of total energies) ... but then, what about lateral showers shape modeling ?!
- Bug fix to correct energy attribution with tower's phi index
(`CellKey::makeCalorKey`, fixed in v.development ✓)
- Up to now (not yet really a "method" ...):
 - ☞ modify *most significant* digit of default parameter value in Gflash ... assess "by eye" and χ^2

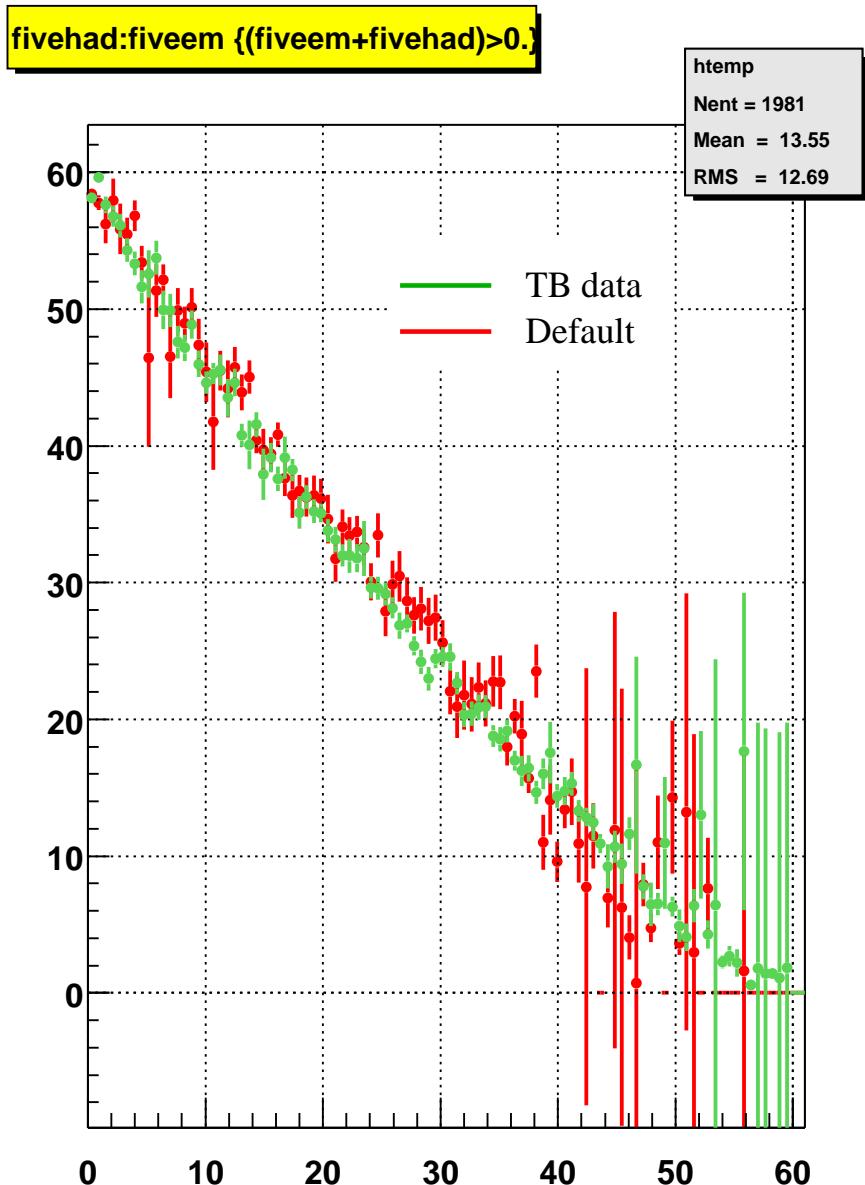
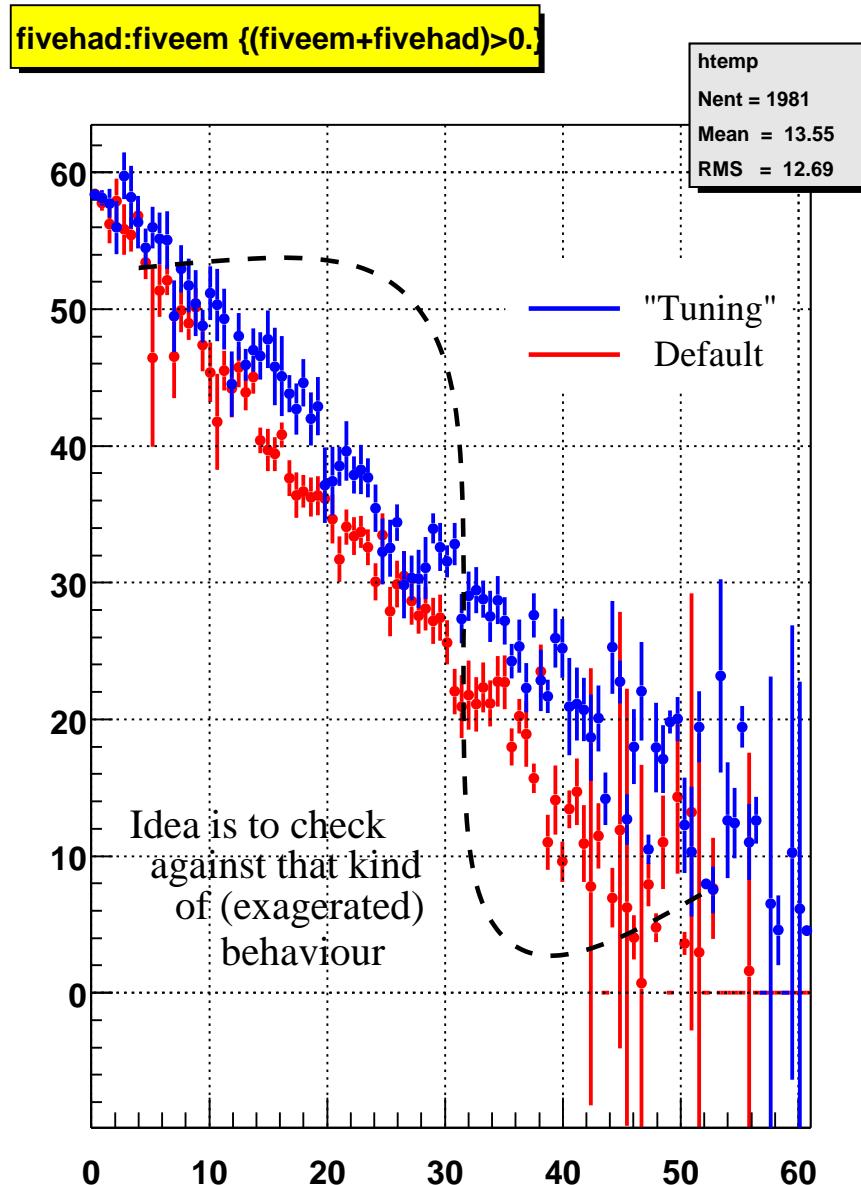
Default Gflash (updated)



Tuning attempt ...



Problem in Etot ?!



Currently going on

- In touch with Willis for the TB data:
 - dataset at 167 GeV ready
 - ☞ Cross-check back and forth low/high energy datasets to assess validity of tuning
- Think about a (smart) way to "optimize" the tuning ...
 - ☞ O(10) parameters to tune, O(1k) events needed per configuration ... problem of type " $10^3 * n^{10}$ " ...

For those familiar with Gflash ...

- In *Ehad* distribution, peak of "full energy" is fairly well reproduced by default
 - ☞ Act on the *PEM side* of the parameters = adjust *Eem* while assessing the *PHA counterpart* of the shower

| Parameter(calo_type) | initial | -> | new |
|-----------------------------|----------------|--------------|------------|
| RSPMIP(PEM) | 0.077 | -> | 0.087 |
| PBYMIP(PEM) | 2.22 | -> | 3.22 |
| SAMELM1(PEM) | 0.15 | -> | 0.25 |
| FLUHAD1(PEM) | 0.36 | -> | 0.26 |